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S45	40804	link\$3 with (two seperate additional another second next) with (tree graph data)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 17:10
S46	2882	((717/105,125) or (715/764,771,853, 854)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/05/12 10:52
S47	216	S45 and S46	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 16:58
S48	595	link with (two seperate additional) with tree	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 16:58
S49	12	S46 and S48	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 16:58
S50	2336	link\$3 with (two seperate additional another second next) with (tree graph)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 17:20
S51	50	S46 and S50	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 17:10
S52	1099	join\$3 with (two seperate additional another second next) with (tree graph)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 17:20
S53	4	S46 and S52	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/11 17:20

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S54	1	("6654759").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/05/12 09:57
S55	1936	((717/105,125,127) or (715/767,771,854)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/05/12 11:15
S56	14	hyperbolic and S55	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/05/12 11:16


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1 [The effects of information scent on visual search in the hyperbolic tree browser](#)



Peter Pirolli, Stuart K. Card, Mija M. Van Der Wege

March 2003 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 10 Issue 1**Publisher:** ACM Press

Full text available: pdf(2.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The Hyperbolic Tree is a focus + context information visualization that has been developed to amplify users' ability to navigate large tree-structured information systems. Information scent is a theoretical construct that captures one kind of interaction between task and display. Information scent is provided by task-relevant display cues, such as node labels on a tree that influence a user's visual search behavior and navigation decisions. An empirical Accuracy of Scent (AOS) score was developed ...

Keywords: Hyperbolic Tree, Information visualization, fisheye-lens visual search, focus+context, information foraging, information scent, interactive computer graphics

2 [A focus+context technique based on hyperbolic geometry for visualizing large hierarchies](#)



John Lamping, Ramana Rao, Peter Pirolli

May 1995 **Proceedings of the SIGCHI conference on Human factors in computing systems****Publisher:** ACM Press/Addison-Wesley Publishing Co.

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3 [Visualizing hyperbolic space: unusual uses of 4x4 matrices](#)



Mark Phillips, Charlie Gunn

June 1992 **Proceedings of the 1992 symposium on Interactive 3D graphics****Publisher:** ACM Press

Full text available: pdf(665.48 KB)

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4 [Visualizing trees with a hyperbolic projection in one dimension](#)

Alexander Kolliopoulos

April 2003 **Journal of Computing Sciences in Colleges**, Volume 18 Issue 4**Publisher:** Consortium for Computing Sciences in Colleges

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D D Sleator, R E Tarjan, W P Thurston

November 1986 **Proceedings of the eighteenth annual ACM symposium on Theory of computing**

Publisher: ACM Press

Full text available: [pdf\(1.17 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**2** [Visualizing the structure of the World Wide Web in 3D hyperbolic space](#)

Tamara Munzner, Paul Burchard

January 1995 **Proceedings of the first symposium on Virtual reality modeling language**

Publisher: ACM Press

Full text available: [pdf\(3.24 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**3** [Discrete groups and visualization of three-dimensional manifolds](#)

Charlie Gunn

September 1993 **Proceedings of the 20th annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

Full text available: [pdf\(784.44 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** curvature, discrete group, geodesic, hyperbolic geometry, projective geometry, quotient space, spherical geometry, tessellation**4** [Parallel computation over hyperbolic groups](#)

Jin-yi Cai

July 1992 **Proceedings of the twenty-fourth annual ACM symposium on Theory of computing**

Publisher: ACM Press

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Hyperbolic groups are a rich class of groups frequently encountered in mathematical research, particularly in topology. It has been the focus of intense study by many combinatorial group theorists and topologists recently. We present some computational results for infinite groups, especially for hyperbolic groups. It is shown that the word


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